

### REMARKS

Claims 1-13 and 16 are presented for further examination.

#### Claim Objections

The Office action objects to claims 1-13 for using the language “adapted to” because it “does not constitute a limitation in any patentable sense.” (Office Action at p. 2) To the contrary, recent decisions by the Court of Appeals for the Federal Circuit suggest that the use of the phrase “adapted to” in the body of a claim may serve as a substantive limitation. *See, e.g., Intermatic Inc. v. Lamson & Sessions Co.*, 61 USPQ2d 1075, 1983 (Fed. Cir. 2001); *Ishida Co. Taylor*, 55 USPQ2d 1449, 1453 (Fed. Cir. 2000) (interpreting the phrase “a pair of dealing and stripping means . . . being adapted to cooperate. . .”). Moreover, the MPEP states that “[t]here is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper.” MPEP § 2173.05(g). Accordingly, Applicants submit that defining a part of their invention using the language “adapted to” is proper.

#### Claim Rejections under 35 U.S.C. § 102

The Office action rejects claims 1-4 and 9-12 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,887,606 (Parr). The Office action asserts that the Parr patent discloses, among other things, a fuel cell control unit connected to a “water purging device (Fig. 15A, 15B; col. 9, lines 16-27) and “electrical heaters near ends (col. 9, lines 1-10).” (Office Action at p. 2) Applicant respectfully submits that is incorrect.

The Office action points to purge valve controller CS4 as allegedly corresponding to the “water purging device” of claim 1. As the claim recites, the water purging device purges water “which is generated during a power generation operation in the fuel cell stack” and is controlled by the “control unit.” (*See* claim 1) Purge valve controller CS4 and purge valves 36 and 70 do not correspond to those features of the claim. Instead, purge valve 36 discharges “impurities and other non-reactive components that may have accumulated” from “the supply fuel stream,” and

purge valve 70 vents hydrogen gas. (Parr at col. 8, lines 12-30). In the Parr parent, it is the humidity exchanger 80 that "removes water vapor which is a byproduct of the electrochemical reaction." (Parr at col. 8, lines 42-45) As the Parr patent does not disclose any means for controlling the humidity exchanger 80 with a control unit, it does not disclose the "control unit . . . adapted to operate. . . the water purging device" of claim 1.

Furthermore, the Office action points to hydrogen sensor S5 in the Parr patent as allegedly corresponding to the "electrical heaters" of claim 1. Hydrogen sensor S5 is a "heater element with a hydrogen sensitive thermistor [sic] that may be temperature compensated." (Parr at col. 9, lines 7-9) Hydrogen sensor S5 is not a "heater" as recited by claim 1. The "electrical heater" of hydrogen sensor S5 is simply a thermistor operating in a self-heating configuration. Indeed, the Parr patent states that the thermistor is an element of a Wheatstone bridge. (Parr at col. 7, lines 46-50) Self-heating thermistors in a Wheatstone bridge are commonly used as sensors that identify their surroundings by measuring thermal conductivity. Therefore, hydrogen sensor S5 is not used to heat the fuel cell stack, but rather, is simply a self-heated thermistor acting as a hydrogen sensor. Moreover, the Parr patent discloses only one self-heated thermistor, and therefore does not meet the claim language "electric heaters." Accordingly, hydrogen sensor S5 does not correspond to the "electrical heaters" of claim 1.

Accordingly, the Parr patent does not disclose the subject matter of claim 1 or dependent claims 2-4 and 9-12. This rejection should, therefore, be withdrawn.

#### Claim Rejections under 35 U.S.C. § 103

The Office action rejects claims 1, 5-8 and 13 under 35 U.S.C. § 103(a) as being unpatentable over the Parr patent in view of European Patent Application EP 1283558 A2 (Hayashi).

Applicant respectfully submits that the Office action's rejection is improper because the Hayashi reference is not prior art with respect to the pending claims. The present application has an effective filing date of September 18, 2002 because it claims priority to its Japanese

counterpart. The Hayashi reference, however, is a foreign application that was not published until February 12, 2003. Accordingly, this rejection should be withdrawn.

A certified translation of the priority document JP 2002-271633 for the pending application is enclosed.

#### New Claim 16

Applicants have added new dependent claim 16 which recites that "the electrical heaters are adapted to heat the fuel cell stack." As claim 16 is dependent on claim 1, Applicants submit that it is in condition for allowance. Support for claim 16 can be found in the specification at, *e.g.*, page 3, line 25 to page 4, line 25; page 6, line 19 to page 7, line 1; and page 10, lines 8 to 14. No new matter has been added.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper.


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Applicant : Hideo Kato et al.  
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Respectfully submitted,

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Samuel Borodach  
Reg. No. 38,388

Fish & Richardson P.C.  
Citigroup Center  
52nd Floor  
153 East 53rd Street  
New York, New York 10022-4611  
Telephone: (212) 765-5070  
Facsimile: (212) 258-2291

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